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ABSTRACT

Special libraries and information centers in Indiana were surveyed in the fall of 1968. A compilation, with some interpretation of the questionnaire data from 70 libraries, is presented. The major recommendations of this report are improved communications among all librarians and improved bibliographic tools and methods. Specific recommendations include: (1) the State Library should speed-up centralized photocopy service, with messenger delivery in the Indianapolis area, and should centralize billing procedures; (2) the teletype network presently operated by the State Library be extended to include major special libraries; (3) Indianapolis be considered a pilot area for testing a number of ways in which a closer relationship between special libraries and other kinds of libraries might be achieved; and (4) a "Directory of Special Library Resources" be published and disseminated to other types of libraries. An Industrial Information Service is recommended to serve Indiana businessmen and small manufacturers, possibly centered at the Aerospace Research Applications Center, and be sponsored by the Indiana State Library. Further recommendations must await a pooling of all Indiana Library Studies reports. (MF)

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Report Number Eleven

of the

Indiana Library Studies

Peter Hiatt
Director and General Editor

A SURVEY OF INDIANA SPECIAL LIBRARIES AND INFORMATION CENTERS

by

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The Indiana Library Studies

The Indiana Library Studies represent the first statewide exploration of Indiana libraries of all types and of the library and information needs of Indiana's citizens. A federally funded research project of the Indiana State Library, the Studies are directed by Dr. Peter Hiatt, Consultant to the Indiana State Library and Associate Professor of Indiana University's Graduate Library School. Guidance for the project and advice on the reports have been provided by the Indiana Library Studies Advisory Committee:

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PREFACE

During the early part of 1968, the Indiana Library Studies came into being. A project design was developed which would encompass not only surveys of different kinds of libraries but also of Indiana's population, financial structure, history, and political environment in the context of national trends in library development. Particular segments of the study were assigned to individuals or study teams in the early summer of 1968. A statewide survey of special libraries and information centers was one of these, and was assigned to the author, to be completed simultaneously with the other segments in 1969.[1] This report is the result of that survey. It is hoped that it can be meaningfully used in conjunction with the other reports to contribute to the fulfillment of Indiana's library needs.

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[1] For a description of the project, see Hiatt, Peter "The Indiana Library Studies," Focus, v. 22, no. 3, Sept. 1968, pp. 135-138, 140. and "A Working Paper for Study and Action: Indiana Library Studies," Focus, v. 23, no. 1, March 1969.

SUMMARY AND CONCLUSIONS

Special libraries and information centers in Indiana were surveyed in the fall of 1968. Questionnaire returns from seventy libraries were evaluated and visits were made to thirteen.

Special libraries in Indiana vary greatly in function, size, and services. The most significant collections and the most varied services are found among those libraries serving either research staffs of manufacturing companies or academic special libraries, three of which were included in this study. Services offered are many indeed and range from traditional library reference and loan service to computer-based information retrieval. Collections consist for the most part of serials and technical reports, as well as reprints, pamphlets, and microforms. Book collections tend to be small. Indiana special librarians appear to be quite willing to make their materials available to outside groups and individuals, provided that certain requirements are met. There is precedent among Indiana's special librarians, especially those in Indianapolis, for working with one another and with other kinds of libraries.

Information centers differ markedly in function and subject scope from special libraries, and provide highly specialized services, reference type publications, and custom-tailored current awareness services in response to user needs.

The State Library has an important role in stimulating cooperative ventures, such as the Indiana Libraries Serials Data Bank, cooperative acquisitions programs, improved book collections to supplement special library collections and dissemination of information. Speedier access to resources is one of the chief needs of special libraries, and the State Library is expected to play a part in fulfilling this need.

It is recommended that Indianapolis be considered a pilot area for testing a number of ways in which a closer relationship between special libraries and other kinds of libraries might be achieved.

It is further recommended that the teletype network presently operated by the State Library be extended to include major special libraries.

In order to make known Indiana special library resources, it is recommended that a Directory of Special Library Resources be published and disseminated to other types of libraries. Regional meetings are another means by which different kinds of librarians may learn about special library resources and may plan together for closer cooperation.

An Industrial Information Service is recommended to serve Indiana businessmen and small manufacturers, possibly centered at ARAC (Aerospace Research Applications Center), and sponsored by the Indiana State Library.

Improved communications among all librarians in Indiana and improved bibliographic tools and methods are the major recommendations of this report, and are considered necessary to achieve some of the objectives of the Indiana Library Studies.

INTRODUCTION

Surveying special libraries on a statewide, regional, or national basis should probably never be attempted. It is somewhat like comparing apples with oranges, except that the varieties of organizational structures, functions, collections, and staffing patterns are far greater than the varieties of fruit known to man.

Definition: Special Libraries

What is a "special library?" Is there any single factor or group of factors which would make any of them comparable? Commonly accepted is the definition of a special library as one having a highly specialized collection in one or more subject areas, encompassing all types of informational materials (regardless of physical format), and providing specialized, "customized" services to its clientele, ranging from those normally provided by any library to non-conventional ones involving librarians as well as specially trained personnel.[1]

Janet Bogardus, in her very excellent chapter on special libraries in Tauber's book on library surveys,[2] lists some common factors. After eliminating certain categories of libraries (departments of a specialized nature in public and academic libraries), she finds that special libraries have these factors in common:

1) The non-library environment in which the library is situated
2) Intensive subject specialization
3) The non-book character of much of the collection
4) The variety of services, hand-tailored to serve the purpose of the firm.

[1] For the author's personal opinion on the role of special libraries, see "Not So Special," Mississippi Library News, v. 29, no. 1, March 1965, pp. 27-28.

[2] Tauber, Maurice F. Library Surveys. New York, Columbia, 1967.

She goes on to say that "all four of these actually emphasize the diversity of the individual situation, and defy the application of common standards."

Not to belabor a point, it is difficult at best to make any meaningful comparisons between any two special libraries, and almost impossible to do so on a statewide basis. Much subjective judgment has to be applied, the responsibility for which rests entirely with the author, whose observations may or may not be valid.

Definition: Information Center

Also included in the survey were to be any information centers which might be located within Indiana. An information center is somewhat different from a special library in that its clientele may be nationwide or world-wide, it may have multiple sponsors, its activities may extend far beyond those of a special library and its staff may consist mainly of non-librarians. An information center's main purpose may be to prepare publications of indexes and abstracts, analyzing the literature in depth. It usually requires a great deal of user-feedback to operate successfully. A good definition might be the one for Information Analysis Centers:

> Information Analysis Center: Organizations, usually mission-oriented, accomplishing in-depth acquisitions, storage, retrieval, analysis, and synthesis, and critical and substantive reviews of a subject area pertinent to the mission.[1]

Four such centers were identified in Indiana; because of their unique

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[1]Combination of definitions in Simpson, G.S., A. Flanagan, Information Centers and Services, in Carlos A. Cuadra, ed., Annual Review of Information Science and Technology, v. 1, ADI, Interscience, 1966; and COSATI Panel #6 on Information Analysis Centers. Preliminary Directory of Federally Supported Information Analysis Centers, 1967. Clearinghouse for Federal Scientific and Technical Information, April 1968.

role and organization, they are treated separately in this report, except where otherwise noted.

Purpose of the Survey

According to the proposal as submitted to the Director of the Indiana State Library in August, 1968, by the author, the purpose of this survey of Indiana special libraries and information centers is:

> to assess present resources, services, and attitudes in Indiana special libraries and information centers, in terms of the contribution they might make to, and the benefits they might derive from an improved information system for the State of Indiana.
>
> Particular emphasis will be placed on conventional and non-conventional services, both as they now exist and plans for the future. Possible benefits derived from a closer relationship with the Indiana State Library will also receive attention, as will conditions under which services not now available to the public might be made available to certain user groups.

The author undertook the study, both because it provided an opportunity to participate in a new approach to the problem of providing adequate library service to the entire population of a state, and because of the challenge of working with Dr. Peter Hiatt, whose broad understanding of the problems and approach to their solution provided inspiration and incentive.

METHODOLOGY

Indiana special libraries and information centers were identified through published lists, such as the American Library Directory, and the membership lists of the Indiana SLA Chapter and the local chapter of ASIS.

Certain categories of libraries, normally considered "special" were eliminated. State-level agency libraries, such as those maintained by various departments of state government, and state institutions and hospitals, were to be surveyed by Miss Genevieve Casey, Wayne State University, and are therefore not included in the present survey. No academic special libraries were included, except those of the Schools of Medicine, Law, and Dentistry on the Indiana University Indianapolis campus, because they were to be investigated in other reports. These three libraries were included because of their unique role in providing back-up service to special libraries in the Indianapolis area.

Libraries in religious institutions were included, as were U.S. government libraries of all kinds, including VA hospitals. No private hospital libraries were surveyed. The Regional Medical Program, through its activities involving hospitals, should be able to provide data on hospital libraries.

Ninety separate libraries and information centers were identified; five of these no longer operate, and others are libraries in name only. That is, a collection of informational materials exists, but little or no service is offered.

A questionnaire was constructed, pre-tested, and then mailed to the ninety libraries identified.[1]

The questionnaire was not intended to provide complete data on each library. It emphasized only those questions which were considered important in the context of the stated survey purpose. Other questions were deliberately omitted because they do not lend themselves to simple, written answers. An example is a question about relationships, both formal and informal, with other libraries or information resources, both inside and outside the state.

In order to elicit additional information, a series of visits was planned. During these visits, much valuable information was gathered which could not have been derived from questionnaire answers.

Response to the questionnaire was excellent; 84% of the libraries responded almost immediately. Responses were reasonably complete and only in some cases were questions misunderstood. Whenever there was an apparent misunderstanding, it will be so noted in the tabulations. Table I lists categories of libraries and presents their response.

---

[1] For simplicity's sake, the word "libraries" is used throughout the report instead of "special libraries and information centers," except where it becomes necessary to make a finer distinction.

TABLE I

LIBRARY CATEGORIES AND TYPES OF RESPONSES

CATEGORY	RETURNED QUESTION.	RESPONDED BY LETTER	NO RESPONSE	TOTAL
Manufacturing-Research	19	1	3	23
Manufacturing-Operations	12	0	1	13
Society, Association, Foundation	12	1	1	14
Business	6	2	2	10
Religious	4	1	4	9
U.S. Government	6	0	3	9
Academic Special	5	0	0	5
Local Government	2	0	1	3
Information Centers	4	0	0	4
Totals	70	5*	15	90

*Each of these agencies indicated by letter that there no longer was a library in existence.

The library categories chosen to present survey results were somewhat arbitrary. Clearly defined as categories are manufacturing company libraries, either serving primarily research personnel,(MR), or established as back-up for manufacturing operations, (MM). However, even here are found a wide range of conditions, from highly sophisticated information facilities to simple collections serviced by a secretary-librarian.

Among "Societies, Associations, Foundations," (SAF), we included such widely divergent libraries as those of the American Legion Headquarters, the South Bend Medical Foundation, and various art associations and art schools. Under "Business," (B), were grouped newspaper and insurance libraries, those of advertising agencies and the like. It is interesting to note that not a single bank library was identified in Indiana. "Academic Special," (AS), is self-explanatory. This category included the three Indianapolis libraries mentioned above (Law, Dentistry, Medicine), as well

as two libraries in special institutes on the Indiana University Bloomington campus. Four other similar agencies were classified as information centers and are separately treated.

"U.S. Government," (US), is somewhat of a catch-all, including VA hospitals, the U.S. Penitentiary, Naval Avionics Facility, and Fort Benjamin Harrison Academic Library. "Local Government and Private," (LG), included two county law libraries and one library supported by a private law firm. The categories, although somewhat arbitrary, provided a fairly useful breakdown; common factors may be observed for all except the "US" category.

Once questionnaire responses had been received and had undergone preliminary analysis, visits were made to a selected few. Distance played a large part in choosing libraries; it was relatively easy to visit several in the Indianapolis and Bloomington area during one trip; another trip was made to libraries in Northern Indiana. No attempt was made to "pick" libraries in certain categories; rather, they were chosen with an eye to the amount of information which might be obtained from their librarians which would be useful to the author. This was purely subjective judgment on the author's part, but the results were valuable in terms of additional data obtained and opinions expressed, as well as for gaining a feeling for the thinking of Indiana special librarians.

In the following pages, the results of the questionnaire survey and the interviews with librarians are presented. A copy of the questionnaire is appended to this report and should be used in conjunction with the information given.

ORGANIZATIONAL STRUCTURE

The position of the library in the structure of the organization largely determines its effectiveness. If the librarian reports directly to a top level administrator, he is likely to rank somewhat higher in the hierarchy, have a greater voice in policymaking for meeting a company's information requirements, and receive to a greater extent the respect of his colleagues, an essential ingredient for a successful operation of his library. It is particularly important to pay attention to the librarian's role in the organization, when he is called upon to make decisions involving service which is non-company oriented, that is, to outside agencies or individuals.

The first part of the questionnaire attempted to assess the librarian's position in his company, the role of his library, and the relationships established with other information outlets within the company, which may have several establishments elsewhere, either within, or outside the state, and in some cases throughout the world.

We find, not surprisingly, that the person to whom the librarian reports ranges from Office Manager, Personnel Manager, or Section Chief within a department, to Vice-President in charge of Planning, or R & D. While corporate philosophy determines to a large extent relationships between libraries within the same manufacturing company (centralization vs. decentralization), business libraries tend to be somewhat "higher up" in the hierarchy, probably because their parent companies are not as large and the organizational structure is not as complex. Foundations, societies and associations tend to put their library operations directly

under the chief official, probably for the same reason. Military and other governmental librarians report to the Chief of Administrative Services or to the Chief of Staff, while heads of religious libraries report to the President of the institution.

We find the greatest variety of organizational relationships within the manufacturing group. When the library serves mainly research personnel, the library sometimes is part of a larger division or department encompassing all information functions, with the library itself being restricted to document provision only, while other sections perform literature searches, prepare abstracts and are responsible for technical report preparation and indexing. Many manufacturing branch operations have their librarian report to the Office Administrator, Head of Engineering Services, or Chief of Research, while libraries which are part of main office or headquarters operations report to the Scientific Director, Vice-President for R & D, Director, Technical Services, and in one case, to a "Corporate Technical Consultant."

There seems little pattern discernible in all this; perhaps the only generalization that can be made is that if the organization is small, the library tends to be a separate department, reporting directly to the top man, while in a complex organizational structure it is likely to be quite far down on the rungs of the hierarchical ladder. Notable exceptions may be observed when the personality and proven ability of the librarian is such that he has been able to "make his way up the ladder." Training and experience appear to play an important part; those librarians with sound training and long years of experience have made it their business to

achieve considerable status in their organizations to the benefit of their libraries.

Table II presents data on the libraries' sponsoring agency as well as the chief functions of the parent organization. Because some agencies have two or more equally important functions, the totals are larger than the number of libraries surveyed.

TABLE II

LIBRARIES' PARENT ORGANIZATIONS AND CHIEF FUNCTIONS

TOTAL REPORTING	CATEGORY	FUNCTION OF PARENT ORGANIZATION: RES.	MFG.	BUS.	EDUC.	SERV. TO MEMB.	GOVT.	HOSP.
25	Main Office, Bus. or Mfg.	10	18	6	-	-	6	-
13	Branch Operation, Bus. or Mfg.	8	6	-	-	-	-	-
10	Society, Association, or Foundation	4	-	-	2	4	-	-
9	Academic Special, incl. other Institutes and Information Centers	6	-	-	5	-	-	2
1	Other School	-	-	-	1	-	-	-
6	Federal Government	2	1	-	1	-	-	3
2	Local Government	2	-	-	-	-	-	-
4	Religious	-	-	-	2	2	-	-
70	TOTALS	32	25	6	11	6	6	5

It is clear from the above that the largest single activity engaged in by the library clientele of our special libraries is "research," followed closely by information gathering for the day-to-day needs as they occur in manufacturing operations, an activity closely akin to research and often called just that. Too, those libraries primarily engaged in supporting education are certainly expected to provide research mate-

rials for their students. It should follow, therefore, that there is a group of libraries in Indiana which is equipped to fulfill the research needs of its own clientele. In later pages more attention will be given to the extent to which this responsibility is carried out.

Another way of assessing the relative position of a library within its organization is to find out whether the organization maintains more than one library, and what the relationships are between these. This information was obtained by asking whether the library was indeed the only one in its organization, and if not, whether or not it had any relationships to other libraries within the organization. Table III below provides some answers; however, it should be stated here that much depends on the corporate philosophy of the parent organization; some are strongly centralized, while others run relatively independent establishments in various parts of the country, with little or no administrative relationships between them.

TABLE III

STATUS OF LIBRARY WITHIN PARENT ORGANIZATION

	LIBRARY CATEGORY								
STATUS	MR*	MM	SAF	US	BUS	AS	R	LG	TOTALS
Only library in org.	8	5	10	3	4	2	4	1	37
Main library or autonomous	7	5	2	3	2	-	-	-	19
Number of branches under library's supervision	3	1	2	3	-	-	-	-	9
Branch library	2	2	-	-	-	3	-	-	7
Has departmental collections:									
Under library superv.	1	-	4	-	-	-	1	-	6
NOT under library superv.	12	-	1	1	1	1	-	-	16
Did not answer	2	-	-	-	-	-	-	-	2

*MR - Mfg. Research; MM - Mfg. Operations; SAF - Society, Association or Foundation; US - Govt.; BUS - Business; AS - Acad. Special; R - Religious; LG - Local Govt.

Table III does not include the four information centers, whose organization is quite different and will be discussed separately below.

By far the largest percentage of all libraries are either "Only" libraries or are in the "Main or Autonomous" category. In several cases, librarians indicated that there were other libraries within the company, sometimes in the same city, but that they were independent, with no administrative relationships established by company policy. In other cases, librarians indicated that there was strong central control, with materials, indexes and abstracts, catalogs and much reference service provided from headquarters, sometimes from quite far away.

Generally, the librarians operate pretty much on their own, except for those who report to a Chief of Information Services; only two were found in that category.

Thus it may be assumed that chief librarians are relatively free to develop services, acquire materials, and engage in activities designed to benefit their clientele. As will be seen later, they can for the most part make decisions concerning outside requests without particularly involving their superiors, a factor highly important when considering the unique resources some of their libraries contain, and which could be tapped for Indiana's citizens.

COLLECTIONS

It is the author's opinion that a special library is only as good as the use its librarian makes of his own library's and other materials. Conceivably he can, and very often does, operate a very successful information service with a very small collection. His imagination, resourcefulness and bibliographic know-how are the keys to the library's success, rather than the size of his collection. It therefore follows that size alone is not a measure for special library collections.

One should remember, when studying the tabulations below, that the mark of a good special library collection may often be its timeliness and appropriateness, rather than its size. Frequent weeding is given lip service by most librarians as a "good thing" but is carried out most frequently by special librarians, who are often in cramped quarters, with ever-increasing needs of their clientele, increasing diversity of bibliographic tools as well as informational materials and the need to house all kinds of machines making heavy demands on that space. He must weed to keep from overflowing into the President's office! And there is nothing less useful to him than last year's directory or index; instead he wishes he had next year's! Should he need what to him is historical material, he will surely call upon some other library whose responsibility it is to preserve long runs of annual, or other serial publications.

Following is the description of the data on the collections of the special libraries surveyed. Again, information centers were excluded because of their unique situation. Many libraries were unable to answer

the questions in the section dealing with the collections. Few count publications by physical format; many could provide only the total number of items in their collection. Thus the data below are fragmentary; nonetheless, they give some idea as to the size of the book collections, as to the important part periodicals and serials play, and to the myriad varieties of other materials which are housed within their walls.

TABLE IV

BOOKS[1] IN INDIANA SPECIAL LIBRARIES
(Monographs, Texts, Reference Books)

NO. OF VOLUMES	LIBRARY CATEGORY							
	MR*	MM	SAF	US	BUS	AS	R	LG
100 - 5,000	13	12	8	3	4	-	1	-
5,001 - 10,000	3	-	2	1	-	2	1	-
10,001 - 20,000	1	-	2	1	-	1	-	2[2]
20,001 - 30,000	1	-	-	1	-	1	1	-
30,000 - up	-	-	-	-	-	-	1	-
Growth over 10% during past year	5	2	2	-	1	1	1	1

*MR - Mfg. Research; MM - Mfg. Operations; SAF - Society, Association, Foundation; US - Govt.; BUS - Business; AS - Academic Special; R - Religious; LG - Local Govt.

[1]This category was apparently misunderstood by a number of librarians, who included in their count bound serial volumes. This came to light during the interviews, and the figures were corrected for those libraries visited. No attempt at correction was made for the others.

[2]Count includes legal continuations, such as Reporter series.

Book collections tend to be small in most special libraries surveyed. Out of a total of sixty-two, only twenty-one, or roughly one-third of the libraries have more than 5,000 books. However, their growth rate is considerable; thirteen book collections grew more than 10% during the last year for which statistics were available. The fact that most of these were in the "manufacturing" category might be accounted for

by the fact that several of the manufacturing companies have only recently established their libraries, and their growth rate might be assumed to be quite high during the first few years of their existence, even in the book category. Another factor is that at least one of the librarians included technical reports in her book count, because they were classified as book material in her library.

Most of the book collections consist of reference-type books, texts, and quite specialized monographic material. Those librarians interviewed stated that most general material, which was requested only occasionally, was obtained via interlibrary loan from other libraries. Also, many organizations maintain departmental or office collections which usually contain the books most frequently needed on a day-to-day basis. (See Table III above.)

TABLE V

PERIODICAL SUBSCRIPTIONS IN SPECIAL LIBRARIES

PERIODICAL SUBSCRIPTIONS[1] (current and dead)	LIBRARY CATEGORY							
	MR[2]	MM	SAF	US	BUS	AS	R	LG
1 - 100	2	4	9	1	1	1	1	-
101 - 300	8	7	1	2	1	-	1	-
301 - 600	7	1	1	2	-	-	1	-
601 - 1,000	-	-	1	1	-	-	-	-
over 1,000	2	-	-	-	-	3	-	-
Growth over 10% during past year	5	3	1	1	1	-	-	-

[1]An attempt was made to obtain a separate count for "current" and "dead" periodicals, and to find out whether other kinds of serials were included in the count or not. Very few librarians gave complete information on this question; thus current and discontinued counts were added together in the table above; further, it is not certain which libraries included all serials in their count, and which ones counted only periodicals.

[2]MR - Mfg. Research; MM - Mfg. Operations; SAF - Society, Association, Foundation; US - Govt.; BUS - Business; AS - Academic Special; R - Religious; LG - Local Govt.

While the book collections were quite small as a rule, a different pattern is found where serials are concerned. As with data on books, not all libraries answered the question about periodicals; of the fifty-eight who did, one-third held less than one hundred titles, while one-third held between 101-300 titles. Approximately one-fifth of the total held between 301-600 titles, with the remaining seven libraries holding between 601 and 2,300 titles. The two largest libraries, in terms of periodical subscriptions, are in Indianapolis. Interestingly enough, they are also the largest users of interlibrary loan service. What's more, they are each other's best customer; that is, they borrow far more items per year from each other than from anyone else. The significance of this kind of pattern will be discussed at some length later on.

The growth pattern of periodical collections is similar to that of book collections. Only in three categories, "Academic Special," "Religious" and "Local Government" libraries were there no libraries showing a 10% growth. The largest growth was in Manufacturing-Research; however, these were not the same libraries which showed a 10% growth in their book collection. Again, newer libraries showed a larger increase than older, established ones. Because there was no clear distinction obtained in the data between periodicals and serials, the figures given above are probably not too reliable. However, it can be generally stated that many of the libraries surveyed have considerable periodical holdings; many titles are probably unique in the state and therefore constitute an important resource as yet little used.

Technical reports were the subject of a separate question; surprisingly

few libraries stated that they held this type of material. It could be assumed that several treated (and counted) reports in their pamphlet or book collection; those libraries which are run by clerical personnel could not be expected to house or treat them separately if they are indeed owned. However, of the twenty-one libraries which reported holding technical reports, more than half held over 1,001, and six held over 10,001. Four of these reported holdings of over 50,000.

TABLE VI

TECHNICAL REPORTS IN SPECIAL LIBRARIES

NO. OF ITEMS	LIBRARY CATEGORIES							
	MR*	MM	SAF	US	BUS	AS	R	LG
1 - 1,000	1	3	1	2	1	-	-	-
1,001 - 10,000	2	5	-	-	-	-	-	-
10,001 - 50,000	1	1	-	-	-	-	-	-
over 50,000	2	-	-	2	-	-	-	-
TOTALS	6	9	1	4	1	-	-	-

*MR - Mfg. Research; MM - Mfg. Operations; SAF - Society, Association, Foundation; US - Govt.; BUS - Business; AS - Academic Special; R - Religious; LG - Local Govt.

One part of the questionnaire obtained separate data on technical reports prepared in-house, and on those acquired from other sources. Answers were so incomplete as to be meaningless; thus in-house reports were added to those obtained elsewhere to produce the figures in Table VI above. Several libraries reported that they held most of their technical reports on microfiche; there is no certainty then, that in some cases, technical reports were not counted in both categories. Thus reports may appear again in the information on other materials given below.

As stated above, the strength of a special library's collection most

often lies in its non-book materials. Some effort was made to obtain data on holdings in the audio-visual area. Because many libraries could not give accurate numerical counts for this material, a tabulation is presented below only of all the various kinds of materials these libraries own, with indication of the size of the collection in only two cases (microforms and pamphlets/reprints).

TABLE VII

NON-BOOK MATERIALS IN SPECIAL LIBRARIES

	LIBRARY CATEGORIES								
CATEGORY	MR	MM	SAF	US	BUS	AS	R	LG	TOTALS
Motion pictures	2	-	-	-	-	1	1	-	4
Slides	1	3	5	-	-	1	2	-	12
Microforms:									
Less than 500	5	2	2	-	-	3	2	-	14
More than 500	4	1	-	3	3	-	1	-	12
Audiotapes	3	1	-	1	-	2	2	-	9
Computer tapes	2	-	1	-	-	1	-	-	4
Pamphlets/Reprints:									
Less than 1,000	4	4	5	2	-	2	1	-	18
More than 1,000	9	4	3	1	2	3	2	-	24
Translations*	1	-	-	-	-	-	-	-	1
Illustrations/Pictures	-	2	6	-	3	1	2	-	14
Clippings	-	-	4	2	3	2	2	-	13
Patents*	4	-	-	-	-	-	-	-	4
Trade Catalogs*	2	2	-	-	-	-	-	-	4
College Catalogs*	2	2	1	-	-	-	-	-	5
Manuscripts, archival materials	-	-	4	-	-	-	-	-	4
Sheet music	-	-	1	-	-	-	-	-	1
Disc recordings	-	-	-	-	-	-	1	-	1
Army Regulations/ Technical Manuals	-	-	-	2	-	-	-	-	2
Govt. Specs.*	2	-	-	2	-	-	-	-	4
Maps	-	-	-	1	-	-	-	-	1
Govt. Standards	2	-	-	-	-	-	-	-	2
Competitors' Promotional Brochures	2	-	-	-	-	-	-	-	2

*All categories thus marked may also be represented in other library collections, but were not so listed on the questionnaire replies. Only those specifically listed were counted.

Although the above tabulation gives some idea of the variety of materials held, it does not begin to tell the whole story. Where there are pamphlet and reprint collections, they often run into the hundreds of thousands. Technical reports, specifications and standards tend to be very large collections, too, wherever they are held at all. In addition, several libraries reported renting computer tapes for SDI services in addition to those owned. Services such as RINGDOC[1] (for pharmaceutical libraries) and ISI[2] services are subscribed to by several libraries, as are cartridge microfilms (VSMF[3], IDEP[4]) in large numbers, by several libraries. Microforms are well represented in all types of libraries as an efficient, space saving means of storing large quantities of journal titles, technical reports and trade catalogs.

Many libraries supplement their materials with special indexes. One pharmaceutical library has a very large card index of all known pharmaceuticals, with an annotation on each card stating where and when the drug was developed, its properties, and bibliographic citations to the literature wherever the drug has been discussed. Another interesting example of special files is the large collection of competitors' advertising brochures maintained by two large pharmaceutical companies. Thus, staff members preparing advertising matter on the same or a similar drug can easily ascertain what has been written and avoid duplication. Military

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[1]Derwent's Pooled Pharmaceutical Literature Documentation

[2]Institute for Scientific Information

[3]Visual Search Microfilm Files. Information Handling Services, Inc.

[4]Interservice Data Exchange Program (Department of Defense)

libraries tend to own large collections of such items as Army Regulations, Technical Manuals, and TO's.[1]

Other examples could be cited; suffice it to say that the variety of materials owned is almost infinite. It is clearly the needs of the particular clientele served wich determine the contents of the library collection, rather than any preconceived notion of what a special library "should" contain. Whatever it is that the customer needs, he usually gets. Some libraries are totally responsible for ordering all types of publications for staff, whether for the library collection, office book shelf, or for employees as personal book orders. Others subscribe to computer services for their personnel; these will be discussed in some detail below.

To tap this rich reservoir of technical information for Indiana's citizens is indeed a worthwhile cause; later in this paper the means by which this may be accomplished will be explored.

It is important to know what forms of material are collected in special libraries, but it is even more important to know the subject scope of such material. Only through analysis of subject matter, in terms of geographic location of the various resources, can a meaningful picture ultimately emerge.

The following subject categories were given on the questionnaire and were to be checked by each respondent. Thus we find seventy-four subject categories represented among our seventy libraries. Information centers are included here for purposes of subject analysis of collections.

---

[1]Tables of Organization

TABLE VIII

MAJOR SUBJECT CATEGORIES REPRESENTED IN COLLECTIONS

SUBJECT CATEGORY	LIBRARY CATEGORIES								
	MR	MM	SAF	US	BUS	AS	R	LG	TOTALS
Physical Sciences	3	4	1	-	-	-	-	-	8
Biomedical Sciences	5	-	1	3	-	2	-	-	11
Engineering	10	12	-	2	-	-	-	-	24
Humanities	-	-	5	-	-	2	4	-	11
Social Sciences	2	-	6	1	6	2	1	2	20
									74

The picture changes slightly when the specific subjects represented in the collections were classified. The librarians were asked to list the subjects in order of importance. The results in condensed form are given in Table IX below.

Table IX provides a somewhat more concise picture of the content of collections. Engineering predominates, as it did in Table VIII. Science appears to be somewhat more heavily represented than it appeared in the previous table; the same is true of the Social Sciences. Humanities which were represented equally with Biomedical Sciences before, are now somewhat more heavily represented. Generally, however, the picture is fairly consistent with the librarians' own analysis; differences might be explained by the author's classification of specific areas, some of which she was not entirely familiar with. An example is the Radiation Chemistry Data Center's collection at Notre Dame, which was classified in Nuclear Engineering, while it might just as easily belong in Nuclear Physics or Chemistry.

TABLE IX

MAJOR SUBJECT CATEGORIES ACCORDING TO CLASSIFICATION OF SPECIFIC SUBJECT AREAS
(in order of importance from 1 - highest to 4 - lowest)

	ORDER OF IMPORTANCE				
SUBJECT CATEGORY	1st	2nd	3rd	4th	Totals
Science	1	-	-	-	
Physics	-	3	-	4	
Chemistry	2	3	9	2	
Mathematics	-	1	1	2	
Biology	-	2	-	-	
Totals	3	9	10	8	30
Medical Sciences	7	4	4	1	16
Engineering	4	2	0	1	
Mechanical	8	6	2	3	
Aeronautical	2	2	1	1	
Chemical	1	3	1	2	
Nuclear	1	1	1	-	
Electrical	8	4	2	1	
Civil	1	1	-	1	
Industrial	-	-	1	-	
Agricultural	2	-	-	-	
Petroleum	1	-	1	-	
Materials	-	-	-	2	
Totals	28	19	9	11	67
Humanities	-	-	-	1	
Religion	4	2	3	-	
Literature	2	1	-	-	
Fine Arts	4	3	2	1	
Totals	10	6	5	2	23
Social Sciences	2	-	1	1	
Law	4	1	1	-	
Education	1	1	1	-	
History	4	4	3	1	
Political Science	-	-	1	-	
Psychology	-	-	2	-	
Journalism	1	-	-	-	
Social Work	1	1	-	-	
Business	6	5	3	4	
Totals	19	12	12	6	49
Military Arts and Science	1	1	1	1	4
					189

Indiana special libraries are strong in electrical and mechanical engineering, business and religion. The size of collections was not taken into consideration when this breakdown was presented, but would, of course, influence any evaluation of strengths and weaknesses. For example, although there are relatively few libraries classified in the Medical Sciences, these libraries are, as a rule, quite large, and therefore of considerable importance. In the final section of this paper, some consideration will be given to size factors and subject matter in relation to one another.

STAFF

The status of the library in its organization has previously been discussed. Very largely that status is determined by the person in charge of the library; his training, ability, imagination and understanding of company affairs are important factors. How well he sells the library, and how well he performs the services that are expected or desired can often make a difference between stagnation and growth. In this discussion of personnel in special libraries, information centers are again excluded, because of their special staffing patterns.

The questionnaire was designed to ascertain how many people are considered to be in the professional category in each library, and what their training, in terms of highest degree attained, has been. In several cases, this question was misunderstood; four of the librarians interviewed had assumed that the question related to the staff they served rather than to their own staff. Their answers were, of course, unusable.

In some cases, clerical employees are in charge of the library. At least for purposes of tabulation, clerical personnel responsible for the day-to-day operations of a library are listed in Table X as "No Degree" under "Professional and Salaried," rather than in the clerical category.

As might be expected, holders of L.S. degrees were most often found in those manufacturing libraries which supported research and in academic special libraries. The difference between MR and MM libraries is striking: only one person with an L.S. degree was employed among the eleven MM libraries who responded to this question. Clerical support was far less,

TABLE X

PERSONNEL IN INDIANA SPECIAL LIBRARIES

PERSONNEL CATEGORY	LIBRARY CATEGORY MR	MM	SAF	US	B	AS	R	LG	NA*	TOTALS
Professional or "in charge"	38	9	16	8	5½	13	5½	1	4	100
Degrees:										
No Answer	3	1	2	-	4	-	-	1	-	11
Doctorate	-	-	1	-	-	-	1	-	-	2
Master's (Non-L.S.)	4	2	-	2	-	-	3	-	-	11
L.S. Degree	17	1	5	3	-	10	1	-	-	37
Baccalaureate (Non-L.S.)	11	2	3	1	-	3	1	-	-	21
Other	2	-	-	-	-	-	-	-	-	2
No Degree	1	5	3	2	2	-	-	-	-	13
Non-Professional or Clerical	45	8	14½	23	11½	15	7	1	-	125
Professional Vacancies	2	1	2	3	2	1	1	-	-	12

*Answers were not usable; total staff of agency was given.

too; not all MM libraries had even one clerical employee. Business libraries were reticent about answering the question about degrees held, none of them responded. However, thirty-seven employees have L.S. degrees, thirteen have subject master's or higher degrees, and twenty-one have baccalaureate degrees. Thirteen of the libraries are apparently operated by clerical employees; the largest number of these libraries are in the MM category, followed by the SAF, US, B and MR categories.

Professional vacancies were not as numerous as might have been expected. For the smaller libraries the explanation might be that one librarian was all that was needed to do the work, while the larger ones indicating vacancies might be expected to pay well enough to fill most vacancies fairly quickly. None of the librarians visited expressed serious concern about personnel shortages, although several complained that turnover was rapid. New graduates would come for a short while, and once

having gained some experience, could go on to almost any kind of position they desired.

Several companies presently operating their libraries with clerical personnel indicated a professional vacancy; it might be speculated that the pay offered was not sufficient to attract a professionally-trained librarian. This is certainly true in US libraries, where some of the GS ratings and their salary scales have lagged behind the going rate for librarians at the present time.

It should be emphasized, in summary, that special libraries in Indiana are fairly well staffed and that many of the chief librarians are well trained and experienced people with long years of meritorious service. Of course the author met only a small number of them, but if they are an example of the rest of the group, they are indeed an asset to the state.

SERVICES

As stated before, a library is only as good as its services. A collection of materials, unused, and unknown to the clientele, serves little purpose beyond perhaps adding some prestige to the company. Services were assessed by listing both conventional and non-conventional services; the librarians were asked to check those offered, and to rate them as follows:

1 = Heavy use
2 = Moderate use
3 = Light use

Unfortunately, portions of this questionnaire item were misunderstood. For example, almost all checked "Literature Searches" as one of the services offered; when interviewed, some librarians admitted that they thought this meant checking what was in the library collection on a certain subject, rather than the exhaustive search activity intended by the question. "SDI--Notification of Users when Items of Interest Arrive" was another category probably misunderstood by some; several librarians thought that picking up the telephone and telling someone that something had arrived which might be of interest to him constituted SDI service. A systematic method, possibly automated, and involving the construction of interest profiles, and the matching of these against indexed incoming materials was what had been intended. Because this was not clear, answers should be interpreted with caution.

According to the answers received, Indiana special libraries offer a great many services to their users. They are presented below, in some detail, with appropriate notes wherever a respondent either indicated additional services, or made other, explanatory comments.

TABLE XI

SERVICES OFFERED BY INDIANA SPECIAL LIBRARIES

Rating 1 = Heavy use
2 = Moderate use
3 = Light use
OFD = Offered

	LIBRARY CATEGORY																																
	MR				MM				SAF				US				B				AS				R				LG				
	OFD	1	2	3	OFD	1	2	3	OFD	1	2	3	OFD	1	2	3	OFD	1	2	3	OFD	1	2	3	OFD	1	2	3	OFD	1	2	3	TOTALS
Loan of Books	19	13	5	1	12	6	5	1	8	3	2	3	6	2	4	-	1	-	1	-	4	3	1	-	4	3	1	-	2	1	1	-	56
Loan of Journals	19	11	5	3	10	6	2	2	6	2	3	1	6	3	3	-	1	1	-	-	4	3	1	-	3	1	1	1	1	1	-	-	50
Interlibrary loans:																																	
TO others	18	1	2	15	10	-	-	10	9	0	3	6	6	0	1	5	1	-	-	1	2	1	1	-	3	-	1	2	-	-	-	-	49
FROM others	19	7	7	5	11	2	6	3	6	2	1	3	5	2	1	2	1	1	-	-	4	1	2	1	3	-	1	2	-	-	-	-	49
Photocopy Service	16	7	6	3	9	4	2	3	7	4	3	-	1	1	-	-	2	1	-	-	5	1	2	2	1	-	-	1	-	-	-	-	41
Quick Reference Service:																																	
In library only	17	7	8	2	9	5	4	-	12	6	3	3	6	4	1	1	4	2	2	-	4	1	2	1	3	-	2	1	2	2	-	-	57
By telephone	16	8	5	3	9	4	1	4	11	1	5	5	6	2	1	3	4	-	4	-	4	-	2	2	3	-	1	2	2	2	-	-	55
Compilation of bibliographies:																																	
Comprehensive	15*	5	3	7	7	0	3	4	6	-	3	3	5	1	1	3	1	-	1	-	4	1	2	1	3	-	-	3	-	-	-	-	41
Evaluative and/or annotated	9*	2	3	4	3	-	-	3	3	-	1	2	3	-	1	2	-	-	-	-	2	1	1	-	1	-	-	1	-	-	-	-	21
Verification of bibliographies and/or citations	14*	2	3	9	4	-	1	3	2	-	1	1	6	1	2	3	-	-	-	-	3	1	2	-	2	-	1	1	-	-	-	-	31
Literature Searches	18*	6	6	6	8	2	3	3	7	1	2	4	5	1	2	2	1	-	-	1	4	2	2	-	2	-	-	2	-	-	-	-	45
Preparation of State-of-the-Art Reports	4	1	1	2	2	1	-	1	1	1	-	-	2	-	-	2	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	10
Abstracting Services (In-house)	7	4	1	2	3	1	1	1	1	-	1	-	2	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
Indexing Services (In-house)	7	4	2	1	4	2	2	-	2	1	-	1	2	-	1	1	1	1	-	-	1	-	-	1	-	-	-	-	-	-	-	-	17
Routing of Journals	16	9	3	4	8	4	2	2	2	1	-	1	4	2	2	-	1	1	-	-	2	2	-	-	2	1	1	-	-	-	-	-	35
Routing of Acquisition Lists	15	8	6	1	7	3	2	2	2	-	-	2	5	2	2	1	-	-	-	-	3	1	2	-	2	-	2	-	-	-	-	-	34
SDI	17	10	3	4	10	5	2	3	5	2	1	2	4	1	2	1	2	-	2	-	4	3	1	-	2	-	2	-	-	-	-	-	44
Arrange for or Prepare Translations	14	-	7	7	2	-	-	2	4	1	-	3	1	-	1	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	22
Loan of films, slides, tapes	4	1	-	3	3	-	-	3	5	1	1	3	1	-	1	-	-	-	-	-	2	-	2	-	2	-	1	1	-	-	-	-	17
Loan of Audio-Visual Equipment	1	-	-	1	2	-	-	2	3	-	-	3	-	-	-	-	-	-	-	-	1	-	-	1	1	-	1	-	-	-	-	-	8
Aid User with Personal Collection	8	1	2	5	5	1	1	3	3	-	-	3	-	-	-	-	1	-	1	-	2	1	-	1	3	-	1	2	-	-	-	-	22
Other (see discussion below)	3[1]				1[2]				2[3]				1				3[4]				1[5]				-				-				11

*In one case performed by another section of Information Division, NOT library.

Footnotes to Table XI

[1]In the MR category, the following additional services were listed:

Prepare lists of current articles of possible interest and supply requested items
Storage and distribution of reprints (company-authored)
Send personal binding with library shipments
Central publication purchasing for entire company
Circulate patents, internal reports
Microfilming of laboratory records
Data retrieval indexing and classifying

[2]For MM the following additional service was listed:

Technical service to employees (not clear what is meant by this)

[3]SAF listed the following:

Publish monthly bulletin, 5,000 subscribers
Dispense subject materials, pamphlets, pictures, etc., free of charge
Arrange for photographic copies of pictures
Much reference by mail to Indiana citizens and scholars elsewhere

[4]B listed the following additional services:

Use of microfilm
Special reference service to newspaper readers: "Ask the Press"
Loan of vertical file materials
Loan of art file materials

[5]AS libraries provide the following additional services:

Bi-monthly newsletter, including list of acquisitions and supplement to serial catalog
Library handbook
Videotapes on use of selected reference tools (CA, Index Medicus, etc.)
Library orientation on videotape

Analysis of service categories and use rankings provides an interesting although slightly incongruous picture. As might be expected, the MR category is most active in the provision of services. They provide full traditional library service, and many of them provide much more than that. Evaluative and annotated bibliographies, state-of-the-art reports, abstracts and indexes are prepared by several, and seventeen out of a total of nineteen checked SDI as one of the services provided. From the interviews it became apparent that in some cases, the SDI service included only certain types of materials, such as technical reports, or journal articles. These were true SDI services: computer-based, and including interest profiles. Others who checked this item probably provide a similar service on a less sophisticated level.

Provision of services drops off sharply in the MM category, although at least two libraries in that group provide the full range of services.

Because of the nature of collections and use patterns in the SAF category, relatively few services are provided. These are mostly reference libraries, staffed by clerical personnel and used by members only. Books and journals do not circulate in some cases; on the other hand in at least one library conventional as well as many of the less traditional services are offered.

Because of the diversity of the US group, little consistency can be found within it. While two of the libraries operate in much the same way as the MR group, three others are hospital libraries, with quite different responsibilities. Each includes a patient library as well as a medical collection, with library staff time divided between the two. This naturally influences the provision of special services. Also, there is less

need for in-house abstracting and indexing, because of the excellent bibliographic tools commercially available in the medical field.

Business libraries appear to offer fewer services than do libraries in the categories discussed above. Only four of the six answered questions about services, and these answers were sparse indeed. Again, there seems to be a close relationship between staffing and services; as shown in Table X, no one with any sort of degree operates any of the business libraries. Academic special libraries are active in the provision of traditional services; while one of the special institute libraries offers very little service, the other four in the AS category offer those traditionally expected from academic libraries.

Religious libraries were surprisingly active in the provision of services. One wonders if all questions were clearly understood, when one finds a religious library checking "Preparation of State-of-the-Art Reports."

The two local law libraries provide skeletal services; lawyers normally do not expect to receive a great deal of service from their county law library, and this seems to be true in this area as elsewhere.

Interlibrary loan services have not been considered here, as these will be discussed in another section of this paper.

In summary, there seems to be a rather clear relationship between the kinds of services offered and the category or type of library. When libraries serve research personnel, much is expected and much is provided. That a definite relationship exists between the presence of trained personnel and the provision of services can also be established with some assurance. Traditional library services are ranked higher in importance

by most librarians than the less conventional ones. And as stated before, the imagination and resourcefulness of the librarian is probably the key to the successful use of a library's services; how well he sells and performs these services has much to do with the degree of use.

USER GROUPS

The user population of Indiana special libraries was studied next. One specific purpose was to find whether any user groups not now included in the libraries' regular clientele might be served in the future. Questions about users sought to identify three things:

1) Which categories of users can use the library now?

2) Which groups not now using the library might be allowed to use it?

3) What conditions would have to be met in order for non-users to become eligible?

Users were grouped in two major categories: those within the parent organization, and those outside the parent organization. Table XII below presents the findings from this part of the survey.

Very few outside groups or individuals were identified as users. Service is given by both medical academic libraries to all physicians in the state; retired military personnel are served by a US library; and one business library which serves the entire insurance industry identified "subscribers" everywhere as users of its reference services.

In the "could use" category, there is a surprisingly large number of libraries in all categories willing to serve groups and individuals who are not now using them. Even more surprising is the fact that so many of the libraries already do serve non-organizational or outside groups and individuals. Over half of the libraries already serve faculty and members of certain professions when the need arises, while slightly less than half of those who responded serve graduate and undergraduate students as well as teachers. High school students and the general public are already being served by one-fourth of these libraries. MR and MM libraries

TABLE XII

USERS OF INDIANA SPECIAL LIBRARIES

USER CATEGORY	LIBRARY CATEGORY																	
	MR		MM		SAF		US		B		AS		R		LG		TOTALS	
	1*	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Within Organization:																		
Research Staff	18	-	11	-	10	-	4	1	4	-	5	-	3	-	2	-	57	1
Administrative Staff	18	1	11	1	10	-	5	1	5	-	5	-	3	-	-	-	57	3
All Staff on premises	16	1	11	1	9	1	5	1	6	-	5	1	3	-	-	-	55	5
All Staff, regardless of location	16	2	10	1	8	1	4	2	4	-	5	-	3	-	-	-	50	6
Members Only	-	-	-	-	8	1	-	-	-	-	-	-	2	1	1	-	11	2
Outside Organization:																		
Faculty Members	4	8	3	2	7	-	4	-	1	-	5	-	3	-	1	-	28	10
Graduate Students	4	10	-	2	7	1	4	-	1	1	3	-	3	-	1	-	23	14
Undergraduate Students	4	10	-	3	6	2	4	-	1	1	2	-	3	-	1	-	21	16
High School Students	3	7	-	3	6	1	3	-	1	1	1	-	2	-	2	-	18	12
Teachers	4	9	-	3	7	-	3	-	1	1	3	1	3	-	2	-	23	14
Members of Profession	5	7	-	2	6	-	5	-	1	1	4	-	3	-	2	-	26	10
General Public	2	5	-	1	8	1	2	-	1	-	-	-	2	-	-	-	15	7

* 1 = using now
  2 = could use

appear to be the most willing to take on additional customers, provided that certain conditions are met.

Conditions to be met for those now using services and for those who would be permitted to use them range from "interlibrary loan only" to "approval of management." Eleven libraries stated that "interlibrary loan," or, in two cases, "appointment with the librarian" was the only way that all outside user groups could use their collection. Twelve libraries indicated that material was to be used on the premises, regardless of user category. Other responses indicated considerable differences in the treatment of user groups listed, ranging from practically unlimited use by faculty and graduate students to restricted use by the general public (e.g., "exceptional cases only," or, "only if not available anywhere else in the area").

Six libraries indicated that they would not serve any outside groups; the other libraries excluded certain user groups from service to a lesser or greater degree (e.g., high school students are excluded by eight libraries, while the general public cannot use another eight libraries, not necessarily the same ones).

A strong tendency to serve those who really need the materials in these libraries is evident. They do not advertise that they are open to the public, but when information is needed, and not available easily nearby, arrangements can usually be made to borrow the necessary material, to use it on the premises, or to acquire it through interlibrary loan.

Many respondents took pains to add explanatory notes to this section, listing particular arrangements they have made with other libraries in their area to facilitate use of their materials, and stating that they

contibute to various local union catalogs and to the Indiana Libraries Serials Data Bank, and that they are generally willing to help out when it is really needed.

Interlibrary loan plays perhaps the most important part in service to outside user groups. In the concluding chapter of this report, this subject will be dealt with at greater length; it is sufficient to say here that almost all libraries are quite used to this medium of interlibrary cooperation, and are allowing most outsiders to make use of their collections through interlibrary loans.

AUTOMATION IN INDIANA SPECIAL LIBRARIES

Because plans for improved library service to Indiana's citizens may include some degree of automation, such as an automated communications network, or computerized bibliographic control of materials, it was considered important to find out to what extent special libraries were already using automated methods to improve and extend services to their own clientele. Conceivably, much could be learned which might be applied to other groups of libraries or to the state as a whole.

The questions were concerned not only with the availability of automated equipment, but particularly with the use to which it has been put, and plans for future, additional uses. The availability of WATS[1] lines for easier communication, teletype machines, unit record equipment and computers was investigated. The availability of equipment for microfilming material on the premises was also of interest, because of its possible use for making certain documents available to others by microfilming, rather than by loaning or photocopying, both of which might not be feasible in certain circumstances.

Questions were not asked concerning the availability of microfilm readers, because it was assumed that libraries which indicated that they owned microfilms would surely also own the necessary reading equipment. Equipment (e.g., Flexowriters) which is normally used only in the automation of technical processes was not of particular interest. Automated activities which could serve as examples for other libraries, or as models for network activities such as interlibrary loan, or cooperative

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[1] Wide Area Telephone Service

bibliographic control were investigated.

Not surprisingly, it was found that quite a number of special libraries have indeed been engaged in automated activities. Some of these activities are quite sophisticated, and belong in the information retrieval category rather than to the library housekeeping category. Table XIII below presents some of the findings from this part of the survey.

TABLE XIII

AUTOMATED EQUIPMENT AVAILABLE IN SPECIAL LIBRARIES

	LIBRARY CATEGORY[1]						
EQUIPMENT CATEGORY	MR	MM	SAF	US	B	AS	TOTALS
Teletype	11	3	3	1	-	1	19
Unit Record Equipment	3	1	-	-	-	-	4
Microfilming Equipment	5	1	2	1	1	-	10
Computer[2]	8	2	1	-	-	1	12
WATS	6	1	1	-	-	2	10

[1]None of the "religious" or "local government" libraries indicated that they owned automated equipment.

[2]Computers listed were the following makes and models:

2 - IBM-?	1 - IBM-7094
1 - IBM-1130	2 - IBM-360/?
1 - IBM-1460	3 - IBM-360/30
1 - IBM-7040	1 - Honeywell 200

It is somewhat surprising to note that four librarians did not know the model computer they are presently using. It is conceivable that this occurred in situations where the librarian simply turns over the job to be done to the computer center and has little or no contact with machines himself. According to the survey responses, "microfilming equipment" is owned by ten libraries. Although it was specifically stated that "readers" were not meant, the author doubts that there are really ten libraries (or their parent organizations) which own microfilming equipment. It is

possible that this question was misunderstood in some cases. Concerning the uses made of automated equipment, a wide variety of activities is being carried on. Table XIV below presents some of the findings; others will be given in narrative form.

TWX is used fairly heavily for interlibrary loan; use of the WATS line for this purpose is also considerable. The computer is used for all listed purposes equally, but by no means is it used by all who have access to one to the extent that they could make use of it. Plans for the future emphasize serials control and similar tasks; only in one case (of the two) do plans call for use of computers for indexing and retrieving information contained in such publications as patents and technical reports.

The extent to which these libraries subscribe to computer tape searching services was examined next. It is interesting to note that not a single library subscribed to Chemical Abstracts on tape; when asked, several librarians indicated their present dissatisfaction with search results they had observed elsewhere, and they expressed hope that the promised improved services would be more useful to them than the present ones offered.

TABLE XIV

AUTOMATION ACTIVITIES IN SPECIAL LIBRARIES

ACTIVITY	LIBRARY CATEGORY[1]																							
	MR				MM				SAF				AS				LG				TOTALS			
	U[2]	C	T	W	U	C	T	W	U	C	T	W	U	C	T	W	U	C	T	W	U	C	T	W
Technical Services and/or Circulation	2	3	1	1	-	1	-	-	-	-	1	-	-	-	-	-	1	-	-	-	3	4	2	1
Interlibrary Loan	-	-	6	6	-	-	2	1	-	-	2	1	-	-	1	2	1	-	-	-	1	-	11	10
SDI Services	-	3	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	4	-	1
Indexing Services	1	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	3	-	-
Acquisitions Lists	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-
Routing of Materials	2	3	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	3	4	-	-
Reference Work	1	2	2	6	-	-	1	-	-	1	2	1	-	1	1	1	-	-	-	-	1	4	6	8

[1] US, B, and R libraries did not report any activities

[2] U = Unit Record Equipment, C = Computer, T = TWX, W = WATS

TABLE XV

KINDS OF COMPUTER TAPE SEARCHES OFFERED

SERVICE	LIBRARY CATEGORY[1] MR	MM	AS	US	SAF	TOTALS
IFI (Information for Industry)	1	-	-	-	-	1
API (American Petroleum Institute)	1	-	-	-	-	1
NASA (National Aeronautics and Space Agency)	5	1	-	-	-	6
DDC (Defense Documentation Center)	4	1	-	-	-	5
ISI (Institute for Scientific Information)	2	-	-	-	-	2
RINGDOC (Derwent's service for pharmaceuticals)	1	-	-	-	-	1
ARAC (Aerospace Research Applications Center)	3	1	-	-	-	4
MEDLARS (Medical Literature Analysis)	-	-	1	1	-	2
Own membership tapes	-	-	-	-	1	1

[1]Other categories did not report tape searching as one of their activities.

ARAC provides tape searches for its customers, as described below in the section on information centers. Other tapes are rented, some are purchased, and the remainder of the searches are performed off the premises by the organization providing the tapes.

One library belongs to the Western Electric-Bell System library complex and receives a considerable number of services through the BellRel system and its related activities. Abstract Bulletins, a computer-printed catalog of the three major Bell System libraries, a permuted index for internal reports and a planned index for a slide collection are or will be made available to this library from headquarters. One library searches military specifications by computer, and is planning to computerize its book catalog. Several produce computer-printed serials listings, some with built-in updating capability. Another library uses the Jonker Termatrex (optical coincidence) system for retrieval of microfilms.

In summary, considerable use is made by the larger libraries of automated equipment. In order to make use of the techniques developed in some of these libraries, it would be necessary to visit each one and talk not only with librarians but also with computer personnel to find out what kinds of programs have been written and which of these might be useful to others. One example might be computer searches of specifications, certainly a highly useful application which could profitably be used by others. Those librarians indicating the availability of SDI services might be interviewed to ascertain how their user profiles were developed. Should such a service, in modified form, become part of a state plan, the knowledge already available here could be put to good use.

Library housekeeping chores lend themselves well to automation and have indeed been automated in a good many special libraries. Here again much could be learned by examining systems flow charts and programs, so that other libraries need not necessarily go through all the developmental work when they begin to plan such activities.

INDIANA INFORMATION CENTERS

Four information centers were identified in the survey. They are:

Aerospace Research Applications Center, Indiana University (ARAC)
Educational Research Information Center/Clearinghouse on Retrieval of Information and Evaluation on Reading, Indiana University (ERIC/CRIER)
Radiation Chemistry Data Center, University of Notre Dame
Thermophysical Properties Research Center, Purdue University (TPRC)

All four are located on university campuses and are either wholly or in part sponsored by these universities. Here the similarity ends; two centers, ARAC and ERIC, are essentially sponsored by federal government agencies, although ARAC now is largely self-supporting. The other two are sponsored and supported by their parent universities to a far greater extent, are administratively responsible to an officer of the university, and serve largely staff on the premises.

There are, however, more differences than similarities between them; thus it is far better to treat each one separately than to attempt to compare them or draw conclusions based on data compiled from all four. Below is a description of each; the assessment of the possible role one or more centers may play in providing improved library resources to the state of Indiana will be treated in the concluding section of this paper.

Aerospace Research Applications Center (ARAC)

Originally established and funded by NASA, ARAC, located on the Indiana University Bloomington campus, now "makes available to industry the bulk of unclassified, government-sponsored [aerospace] research in America."[1] Approximately 200,000 technical reports form the center's

[1]Brochure: Aerospace Research Applications Center. Managerial, Scientific and Technical Information Services. (Bloomington), n.d.

information base and thousands of additional reports are received each month. Sources of documents include NASA, DDC, AEC and the Department of Commerce. It offers selective dissemination services for its industrial customers, based on either standard or customized interest profiles; retrospective searches; and an industrial applications service, which provides weekly to its customers a number of abstracts of technical reports of research which might be potentially applicable to a particular industrial program. Information on marketing techniques, as well as a computer program information service, is also provided. Information particularly useful to smaller businesses and industrial firms is supplied by means of meetings and seminars.

The service provided is computer-based; a CDC 3600 computer is used for tape searches and other applications. In addition to tapes from NASA, the new MARC tapes from the Library of Congress and those provided by Engineering Index constitute the data base. Additional tape services may be subscribed to in the future as they prove useful.

Most of ARAC's materials consist of microfiche, from which hard copy is made on the request of either a staff member or a customer. About 350,000 microfiche are held, as are about 100 reels of 2400 ft. magnetic computer tape. There is also a collection of hard copy documents (mostly duplicates of those on microfiche), a small journal collection, and a few books. Proximity to the campus' libraries make a research-type book and journal collection unnecessary. Physical sciences and engineering are the major subjects covered; the biomedical sciences are covered to a lesser degree.

Graduate assistants perform most of the literature searches; the

professional staff consists of approximately fourteen people. One holds a doctorate, three have Master's degrees, and the remainder hold Bachelor's degrees and are enrolled in graduate schools. There are ten supporting clerical personnel.

Abstracting and indexing services are provided; many of them appear in published form. In addition, state-of-the-art reports are prepared in response to requests. Literature searches and the provision of current awareness services are, however, the main activities engaged in by the center. Faculty, ARAC staff, and students have access to the collection free, although it is stated that use over a prolonged period of time would have to be paid for by a member of the faculty or a student. Teachers receive the same privileges, while industrial and governmental agencies are charged a fee. A company may become a member for a base fee and then subscribe to any number of standard or customized current awareness services, as well as to any or all of the other services offered. Approximately fifty standard subject areas are offered at the present time, ranging from "crystal growth" to "psychophysiology."

User feedback is obtained by written evaluations on the usefulness of the service as well as by visits and telephone calls by staff members. Customers include large industrial companies from throughout the United States. It is interesting to note that twelve Indiana firms were found in a list of customers provided by ARAC, all of whose libraries were surveyed for this report. Only four of these had indicated that they subscribed to the ARAC services, while six others had indicated that they received NASA tape searches, which may have meant those provided by ARAC.

It is possible that the librarians in the remaining two did not realize that their organizations were customers, perhaps because the searches were sent directly to research personnel, and had not been requested through the library.

Some rather sophisticated techniques have been developed to search the bibliographic data base; manual searches supplement these whenever necessary. Because the center is largely self-supporting, it has become considerably more market-oriented and responsive to its customers than it was in the beginning, and services are being developed as the needs are identified. This is an attitude important to considerations of providing better information service to the state at large; much capability is here and need only be tapped, for a price, to be utilized by those not now able to benefit from ARAC's services.

ERIC/Clearinghouse on Retrieval of Information and Evaluation on Reading

ERIC (Educational Research Information Center) is a nationwide information service provided by the U. S. Office of Education. It presently has over eighteen clearinghouses, most of them located on university campuses or at special subject-oriented institutes. They collect and disseminate information on specialized subjects within the field of education. The information consists primarily of research reports, as opposed to the open literature, which is not included in the system. A monthly publication entitled Research in Education abstracts and indexes reports from the various clearinghouses into a unified system. Access to the report literature is through a Document Reproduction Service which is operated at ERIC Central in Washington.

ERIC/CRIER, located on the Indiana University Bloomington campus,

specializes in research on reading. Operated in close cooperation with the International Reading Association, the center collects, indexes and makes available reports on various aspects of the subject. Approximately 7,000 documents are presently held, as well as 12,000 microfiche (all ERIC reports appear on microfiche and are distributed to subscribers in this form).

Eleven professional staff members (four doctorates, three Master's degrees and four Bachelor's degrees) are engaged in indexing, abstracting, and literature searches. Three of these hold L.S. degrees. A current awareness service and state-of-the-art reports are also provided. Faculty, students, teachers, and others are allowed to use the collection and the services.

An IBM 7040 computer is used to create tapes for the bibliographic data base. The center acquires considerably more material than it indexes or supplies abstracts for; a selection is made at Bloomington on what is to be sent to ERIC Central in Washington.

Because of the relative newness of the center and because of its relationships with other clearinghouses as well as with ERIC Central in Washington, evaluation of its effectiveness in terms of service to Indiana citizens has not as yet been made. It is conceivable that it could serve as a channel for needed information on newer educational developments for Indiana educators.

Radiation Chemistry Data Center

Relatively little information was obtained on this center, compared to the others, all of which returned a great deal of printed information along with the questionnaire. In this case, the questionnaire

was the only information source, and was inadequate to describe the activities of an information center. The Radiation Chemistry Data Center is directed by a University of Notre Dame faculty member, who reports directly to the university's President. Its primary activities are research and education, and its collection of documents is very small. Presumably, the collections of libraries on the Notre Dame campus are used when needed. Its subject areas include radiation chemistry, reaction mechanisms, and chemical kinetics. There are three professionals and five clericals on its staff, who compile bibliographies and data, and do literature searches. Its users are scientists on the Notre Dame campus; however, any scientist interested in radiation chemistry is welcome to use the center. A UNIVAC 418 is used to prepare indexes. No questions were asked about publications issued, therefore it is not known if the work carried on at this center is disseminated to others through formal channels, or if it is only used by people on the scene. Because the center operates in such a narrow, highly specialized area, the usefulness of its resources to Indiana citizens would be relatively limited.

Thermophysical Properties Research Center (TPRC)

The TPRC was established eleven years ago as a "world center for research and the collection, analysis, correlation, and dissemination of thermophysical properties information and data."[1] Its administrator reports to the Dean of the School of Engineering at Purdue University, West

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[1]Williams, Kent A. "At Purdue: North of Campus," Purdue Engineer, Nov. 1967, p. 52-53.

Lafayette. Its primary activity is research, and its collection includes a small group of books, 25,000 copies of book pages, and 45,000 technical reports on microfiche. Its subject areas encompass all of the physical sciences, and it is staffed by forty professional staff members (twelve with doctorates, eight with Master's degrees, and sixteen with Bachelor's degrees; no L.S. degree is held by any staff member). Six clerical people complete the staff.

Its services include telephone reference service, photocopying, compiling bibliographies, both comprehensive and evaluative, literature searches, the preparation of state-of-the-art reports, and indexing and abstracting services.

Staff, outside faculty, graduate and undergraduate students are served, as well as the general public. Nominal fees are expected to be paid when services are rendered, but most of the work is disseminated through publications. A CDC 6500 computer is used for the storage and retrieval of bibliographic information, as well as for data anaylsis and retrieval.

There are four divisions within the TPRC:

> Scientific Documentation Division
> Reference Data Tables Division
> Theoretical Research Division
> Experimental Research Division

To quote the Purdue Engineer article again:

> Present scope of coverage maintains comprehensive surveillance of the world's literature on sixteen thermophysical poperties for all matter, with no restrictions on pressure, temperature, physical state or subject matter.

The center operates as one of the twenty-one Information Analysis Centers under the Department of Defense. It provides a number of important

reference-type publications, as well as literature searches on request. Data tables are another product of the literature surveillance activity. Experimental and theoretical research is carried out on thermophysical poperties for all physical states. The development of testing apparatus is one of the activities of the Experimental Research Division.

An affiliate branch was established in Japan in 1963, and another in Belgium in 1966. Technical inquiries are answered from throughout the world; part of this service consists of consultations with inquirers. A listing of Master's Theses in the pure and applied physical sciences is another product of the center.

It is apparent that because of its specialized work in a relatively narrow area, this center, as well as the one at Notre Dame, is of relatively limited use to the citizens of Indiana. However, it can be stated that these two centers would be an extremely valuable resource to industry having need for highly specialized, detailed, and accurate information in these fields.

CONCLUSIONS AND RECOMMENDATIONS

In the preceding pages, a compilation of the questionnaire data with some interpretation has been presented. Very little information gathered during the author's personal visits was included, because, as indicated above, we felt that our impressions along with some interpretation based on the data would best fit into this final section.

Much of what follows is purely subjective opinion, based on interviews with thirteen librarians, observation, the author's previous experience and knowledge, and the data compilation. It is quite possible that our judgment is wrong in some cases, and that some trends which we saw are not evident to anyone else. However, any report such as this will finally be based on the author's subjective judgment, and on the facts as he sees them. Thus we present below a picture of Indiana special libraries and information centers as we see them, and develop some ideas about how they might fit into a plan for better library service to Indiana citizens.

During the interviews, we asked a series of questions which were designed to elicit from the librarians some facts and some ideas about interlibrary relationships as they presently exist, and as they might develop in the future. We also asked how they viewed the role of the Indiana State Library at the present time, and what its future role might be.

The Indiana State Library and Special Libraries

Twenty of the surveyed libraries had some comment about the State Library; some were written on the questionnaires, and others were elicited

during our visits. Some of their suggestions are as follows:

1. Improved bibliographic control of serials on a statewide basis.
2. Fast, easy-to-use photocopy service, with easier billing procedures.
3. Expanded collection to serve research needs in greater depth, with particular emphasis on serials.

Additional, more specific, suggestions were:

1. An expanded TWX network to include industrial libraries.
2. Better communication in the form of a frequent newsletter, keeping librarians informed of current legislation pertaining to libraries, State Library activities and plans (particularly in the area of cooperative ventures).
3. Regional meetings of staff from ALL types of libraries to discuss better ways of cooperating with one another to improve service, e.g., cooperative acquisitions.
4. The development of automated ways of transmitting information, not only requests but complete documents.
5. Support the development of library education programs in the northern part of the state.
6. Demonstration projects for smaller libraries showing the value of automated processes in libraries.
7. In-service training for librarians in order to improve their knowledge of TWX practices, that is, the ability to submit a complete verified citation in standard form to the loaning library.
8. The placing of basic reference tools in all public libraries connected to the TWX network so that librarians will have the materials necessary to verify requests.

The author suggested several kinds of things the State Library might do, which it is not now doing, and which are being carried on successfully elsewhere. Only positive responses were received from those librarians to whom these suggestions were made during our visits. Suggestions included:

Speeded-up centralized photocopy service, with messenger delivery in the Indianapolis area, and centralized billing procedures.

The establishment of an industrial information service for small business and industry in Indiana.

The State Library received many compliments in the comments made, both on the questionnaire and in person to the author. Especially praised was the reference service, which, according to those who commented on it, is quick, accurate, and extremely helpful. The collection was praised by several, while others felt it could be improved.

Interlibrary Cooperation

Some of the comments made above refer to existing cooperative ventures; thus we need to take a look at existing patterns of interlibrary loans, and other areas in which libraries are working together. There is a long history of easy, generous interlibrary cooperation in the Indianapolis area. Years ago, the SLA Chapter in Indiana, and more specifically, special librarians in the Indianapolis area began a Union List of Serials.

This list is presently on cards, is maintained by volunteers from among the special librarians, and is housed at the Indianapolis Public Library. Interlibrary borrowing and loaning in the Indianapolis area is extensive, and free of restrictions; it includes both the State Library and the Indianapolis Public Library.

The two largest libraries surveyed, in terms of periodicals, were a pharmaceutical library and the Medical School library. They borrow more from one another than from anyone else, and the relationship is to each library's mutual benefit. Existence of the Union List has encouraged some cooperative acquisitions; duplication can be avoided to some extent by knowing what other libraries have. During the interviews it was found, however, that not too much reliance should be placed on the availability

of certain titles in industrial libraries. Because in one or two companies the emphasis of research and manufacturing activities had changed from one subject area to another, entire collections of certain materials on a specific subject had been shipped to another library within the company, which was not located in Indiana, and this shift left a gap in subject coverage which could not easily be filled.

Each librarian was asked questions about interlibrary loan practices, and each gave a different answer. The overriding concern of all who commented was the speed with which the request could be filled. One library borrows exclusively from the Science-Technology Division of the New York Public Library, where a telephone call will often result in the receipt of requested materials four to five days later or even less time if airmail is used. This time factor compared favorably with other collections, which were geographically much closer such as the John Crerar and Linda Hall libraries.

Purdue University's collection was frequently mentioned as a source for materials, but the slowness with which the requests were handled was a universal complaint. Several librarians speculated that the reason for this might be the distribution of Purdue's Serials List, which most likely resulted in many more requests for material than had been expected or could be handled.

Several libraries look to Indiana University's main campus libraries for materials; this was particularly true of the three I.U. academic special libraries in Indianapolis, whose parent institution would naturally be expected to provide the bulk of needed materials.

Others borrowed from the John Crerar Library; both libraries visited in northern Indiana were members, and received most of their loans from there. Both complained about the slowness of mail delivery from Chicago to Indiana, and we suggested that they might investigate the use of United Parcel Service which is available in that area. Almost all of the materials borrowed by those two libraries came from the Chicago area. The Indianapolis libraries borrowed from many different sources outside the state, mostly from nearby university libraries, but also from such specialized ones as the Engineering Joint Council Library in New York, the Harvard and Columbia Law School libraries, the American Society for Metals collection and the National Library of Medicine. However, transactions with these out-of-state libraries represent only a small part of the total number of interlibrary loans; most borrowing and loaning is done right within the Indianapolis area.

One particular situation should be described separately; this is the unique role the I.U. Medical School Library plays in the provision of materials. The Indiana State Library has established a teletype network, connecting most of the larger public libraries in the state. Tied to this network is the Medical Library which provides service to physicians throughout the state via teletype and the public libraries. Doctors or hospitals may place requests through their local library, which relays the teletype message directly to the Medical Library. Xerox copies of requested material go out within 24 hours, directly to the party which requested it. The librarian emphasized that she serves physicians and hospitals throughout the state, and particularly the northern part (which might be expected to look to Chicago for most of their materials), because

the service from the Medical Library is quick. Statistics provided by the medical librarian show that well over 25,000 pages of free xerox copy were provided during 1966/67 to physicians, hospitals and institutions. The southernmost part of the state is served by the Medical Library to a lesser extent because of its proximity to Louisville where the Kornhauser Medical Library of the University of Louisville provides similar services.

A reexamination of the interlibrary loan information (Table XI) shows that forty-nine of the sixty-six special libraries surveyed offer this service. Business and local government libraries provide the least interlibrary loan service. Although a large percentage of our libraries offer it, there is a sharp difference between lending and borrowing. Borrowing FROM other libraries ranked consistently higher in most categories than lending. The difference was especially noticeable in MR and MM libraries, while it dropped off somewhat in the other types. There are several possible explanations for this. Special librarians are astute when it comes to the provision of materials for their clientele; they will borrow <u>whatever</u> it is that is needed <u>when</u> it is needed. Other libraries may not know about special library resources to the extent needed to make a judgment on whether or not to ask for a loan. Too, some librarians may place restrictions on their lending activity, while they feel free to borrow for their customers. It is interesting to note that there is so much less lending than borrowing, especially in light of the information in Table XII and its textual notes which indicates that outside user groups are served only by interlibrary loan in many cases.

The conclusion may be drawn that other librarians in Indiana simply

do not know the extent of materials available from Indiana special libraries and the conditions under which they may borrow them. One of our recommendations below deals with this problem and offers a possible solution.

There are other cooperative ventures being carried on at the present time; contribution to various local union catalogs with other area libraries has already been mentioned. All of the special librarians visited expressed their willingness to contribute to the Indiana Libraries Serials Data Bank, the compilation of which had not yet begun at the time the interviews were conducted. We understand that this project is now well underway; certainly the inclusion of special library holdings of serials should make the list far more valuable than it would be otherwise.

One or two libraries mentioned the possibility of centralized processing for Indiana, based on use of the MARC II tapes, as they became available. Most of these libraries have small staffs and cannot afford catalogers on a full-time basis; and if they have a choice, most of these librarians would much rather spend their time in serving their users than in cataloging books. Bibliographic aids such as proof sheets are far too expensive for most of them, and thus some of them feel they might benefit from a centralized cataloging or processing center, <u>provided</u> that the service is <u>fast</u>. Special library users are an impatient lot and cannot wait for weeks or months for a book to be cataloged. They need it almost instantly after it appears. Because most of the book collections are so small and specialized, this is not usually a great problem, but centralized processing, or even the provision of cataloging information would be of some help.

Summarizing the above, it can be said with considerable assurance that Indiana special librarians, as a group, have established some good working relationships with one another and with other kinds of libraries. They are knowledgeable when it comes to locating and borrowing the materials they need, and they are very willing to work with each other and with other librarians to provide better service. They are organized into a Chapter of SLA as well as one of ASIS; both of these organizations provide an opportunity for dialogue and discussion of mutual problems. Several are also quite active in ILA, and one or two are on advisory committees to the State Library. Recommendations are therefore based upon a conviction that special librarians can and will work together, as has been demonstrated over the years.

There are other assets, too, which might be tapped. There is a considerable amount of automated activity going on in some of the surveyed libraries, some of it of a rather advanced nature. In information centers there is an even greater degree of expertise in this area, as well as considerable awareness of user needs and of the imagination and resourcefulness needed to meet them.

Collections of a highly specialized nature were found; some of the materials are probably unique, at least in the area where the special library is located. Geographic location of special libraries with strong staffs and collections should be considered here; often they may have something needed by a nearby library, but that library does not, at the present time, know about special library collections and services closeby.

Special libraries and information centers in Indiana are clustered in three major areas of the state:

1) In and around Indianapolis (34 libraries)

2) Northern Indiana (21 libraries)

3) Southwestern Indiana (6 libraries)

The remainder of the libraries are scattered, two are in Terre Haute, five in central Indiana, and one each near Louisville, Kentucky and at Purdue University, West Lafayette.

Below is a listing of type of libraries and their geographic location, in terms of the areas defined above.

TABLE XVI

LOCATION OF TYPES OF LIBRARIES IN INDIANA

AREA	LIBRARY CATEGORY									
	MR	MM	SAF	US	B	AS	R	LG	IC	TOTALS
Indianapolis area (incl. Bloomington)	8	4	6	3	3	5	3	-	2	34
Northern Indiana	4	7	5	1	1	-	1	1	1	21
Southwestern Indiana	1	-	1	1	2	-	-	1	-	6
Central Indiana	3	1	-	1	-	-	-	-	-	5
Terre Haute	2	-	-	-	-	-	-	-	-	2
West Lafayette	-	-	-	-	-	-	-	-	1	1
Louisville, Kentucky	1	-	-	-	-	-	-	-	-	1
Totals	19	12	12	6	6	5	4	2	4	70

As may be clearly seen, most of the libraries are in the Indianapolis area. Not only does Indianapolis have most of the special libraries, but also the largest ones in each category. Northern Indiana follows, in number and size of collection, as well as in variety of categories. These two areas may be considered as potential nodes in any proposed information network. Based on the questionnaire and the interviews, the following

recommendations have to be fitted into the overall picture of library resources and plans.

Recommendations:

1) Indianapolis System:

Based on existing cooperative patterns developed in the Indianapolis area, it is recommended that all libraries in this area enter into a closer relationship with one another. This move would be precipitated, encouraged and actively supported by the State Library. Specific ways in which closer cooperation can be achieved are:

a) A regular (daily, or several times a week) delivery service from each library to each library participating.

b) Centralized accounting and billing of photocopy charges by the State Library for all participants or, alternatively, doing away with photocopy charges altogether, reimbursement to be provided by the State Library if participants cannot absorb the costs.

c) A cooperative storage warehouse for back runs of journals and little-used materials, to be collected from all participants, only one copy to be kept.

d) Automation, updating, printing and maintenance of the existing Union List, now located at the Indianapolis Public Library, by the State Library. Possibly this could be carried out by Purdue University as a by-product of its statewide Serials Data Bank.

e) Strengthening of the State Library collection, especially in areas not now represented in special libraries in the area, but related to their needs for supplementary, more general information. Filling of gaps where they exist.

f) Cooperative acquisitions programs agreed upon by all participants, including the Indianapolis Public Library, and utilizing the storage warehouse which itself may subscribe to some infrequently used titles for the benefit of all.

g) Speeded-up (that is, same day) reference service from the State Library to all participants.

h) Aggressive advertising of the State Library's holdings and services to all participants.

The above recommendations concern the Indianapolis area only; should these be adopted and proven successful, some or all could be extended to other libraries in the state. Indianapolis could serve as a model, test these procedures, and then make them part of a statewide plan.

2) Teletype:

Extend teletype network to those libraries in a position to offer sizable specialized collections and to make them available to the state, so that their resources may be tapped for the benefit of Indiana citizens.

3) Directory:

Based on the questionnaire replies, publish a Directory of Special Library Resources in Indiana, similar to the Bowker directories, but listing the specific conditions under which materials can be made available to any or all user groups. This directory should be updated frequently; the logical agency to do this would be the Indiana State Library.

4) Communications:

Engage in an aggressive program, spearheaded by the State Library, to bring together librarians from different kinds of libraries in each region of the state. Purposes of this series of meetings would be to acquaint public and other librarians with the resources and services of special libraries, and the conditions under which these are available, as well as to inform

special librarians of nearby public and academic library collections, which could supplement their own resources.

5) Industrial Information Center:

Tap the resources of university libraries and especially the information centers to establish, under the leadership of the State Library, but in close cooperation with local representatives of the Small Business Administration and those faculty members in engineering schools, etc., who are engaged in consulting work, an Industrial Information Service which would be specifically designed to serve the small businessman and manufacturer. ARAC can play a major role in this activity, provided it can become more responsive to the needs of the small businessman, and tailor its services, which would have to be partly funded by State Technical Services Act funds, to his needs. This would mean hiring a staff of field consultants who would have personal, face-to-face contact on a regular basis with clients, would help identify their problems, and would often be able to offer on-the-spot answers to problems, not necessarily involving the use of publications. Should publications be needed, there would be a need to condense and simplify highly technical material in such a way that the small businessman and manufacturer can make good use of them. A model program of this nature is being carried on in Mississippi; it has attracted national attention, and could well be used as an example for Indiana.

In summary, these recommendations include improved bibliographic control of special library materials, speedier access, and dissemination of information about the availability of these collections to others. In addition, small businessmen and manufacturers have been singled out as a group which might benefit from the services of these libraries, provided that adequate consultation is offered along with appropriate materials from a central location.

We believe that the above recommendations are realistic in view of the findings, and feasible, provided sufficient funds can be obtained from state or federal sources to carry them out. Further recommendations must await a pooling of all Indiana Library Studies reports; from the combined data there may well emerge other possibilities which cannot now be formulated.

APPENDIX A

List of Libraries Responding to Survey Questionnaire[1]

*Aerospace Research Applications Center (ARAC)
Indiana University
Bloomington

*Educational Research Information Center
Clearinghouse on Retrieval of Information and Evaluation on Reading
(ERIC/CRIER)
Indiana University
Bloomington

Institute for Sex Research
Indiana University
Bloomington

Research Center for the Language Sciences
Indiana University
Bloomington

Cummins Engine Company
Columbus

Naval Ammunitions Depot
United States Navy
Crane

Inland Steel Company
East Chicago

Mennonite Biblical Seminary
Elkhart

*Miles Laboratories, Inc.
Elkhart

Evansville Courier
Evansville

Evansville Museum of Arts and Sciences
Evansville

Evansville Press
Evansville

Mead, Johnson Institute Library
Evansville

[1]In geographical order

*Libraries visited

Vanderburgh County Law Library
Evansville

*Academic Library, U.S. Army Defense Information School
Fort Benjamin Harrison

Fort Wayne Art Institute
Fort Wayne

General Electric Company
Fort Wayne

ITT Federal Laboratories
Fort Wayne

Motor Truck Engineering Department
International Harvester Company
Fort Wayne

Lincoln National Life Foundation
Fort Wayne

Business Library, Lincoln National Life Insurance Company
Fort Wayne

Magnavox Company
Fort Wayne

U.S. Veterans Administration Hospital
Fort Wayne

Greenfield Laboratories
Eli Lilly & Company Agricultural Service
Greenfield

LaSalle Steel Company
Hammond

All Souls Unitarian Church
Indianapolis

*Allison Division, General Motors Company
Indianapolis

American Legion National Headquarters
Indianapolis

*Bell Telephone Company
Indianapolis

Christian Theological Seminary
Indianapolis

Community Service Council of Metropolitan Indianapolis, Inc.
Indianapolis

Business Library
Eli Lilly & Company
Indianapolis

*Scientific Library
Eli Lilly & Company
Indianapolis

Esterline Angus Instrument Company
Indianapolis

Herron School and Museum of Art
Art Association of Indianapolis
Indianapolis

Howard E. Nyhart Company, Inc.
Indianapolis

Indianapolis Star & News
Indianapolis

Indiana Academy of Science
Indianapolis

Indiana Historical Society
Indianapolis

*Indiana University Law School
Indianapolis

*Indiana University School of Dentistry
Indianapolis

*Indiana University School of Medicine
Indianapolis

Indianapolis Bar Association
Indianapolis

Link-Belt Division, FMC Corporation
Indianapolis

P. R. Mallory and Company, Inc.
Indianapolis

RCA Victor Home Instruments Company
Indianapolis

Research and Review Service of America, Inc.
Indianapolis

*Speedway Laboratories
Union Carbide Corporation
Indianapolis

United Christian Missionary Society
Indianapolis

*Naval Avionics Facility
U. S. Navy
Indianapolis

U. S. Veterans Administration Hospital
Indianapolis

Delco Radio Division
General Motors Corporation
Kokomo

Materials Systems Division
Union Carbide Corporation
Kokomo

Radio Corporation of America
Marion

U. S. Veterans Administration Hospital
Marion

Joy Manufacturing Company
Michigan City

Bendix Corporation
Mishawaka

Ball Brothers Research Corporation
Muncie

Pillsbury Company
New Albany

Radiation Chemistry Data Center
University of Notre Dame
Notre Dame

Electronic and Ordnance Division
Avco Corporation
Richmond

Bendix Corporation
South Bend

Northern Indiana State Historical Society
South Bend

St. Joseph County Law Library
South Bend

South Bend Art Center
South Bend

South Bend Medical Foundation, Inc.
South Bend

Chas. Pfizer & Company, Vigo Plant
Terre Haute

Commercial Solvents Corporation
Terre Haute

Thermophysical Properties Research Center
Purdue University
West Lafayette

*American Oil Company
Whiting

APPENDIX B: QUESTIONNAIRE

INDIANA LIBRARY STUDIES

Survey of Special Libraries and Information Centers

1. Name of Sponsoring Organization or Company: _____

_____

Address: _____
Street or P.O.Box City ZIP

2. Name of Library or Information Center: _____

_____

Address: _____
Street Address City ZIP

Check here if same as Company Address /__/

Telephone Number: _____
(include area code)

3. Name of Head of Library or Information Center:

_____
(name) (title)

4. To whom does Librarian or Head of Information Center report?

_____
(name) (title)

==========

5. Organizational Structure: (Please check category which best describes your organization)

a. Sponsoring Agency or Company:

___ Main Office (industrial or business)
___ Branch Operation (industrial or bus)
___ Association or Society
___ Foundation
___ College or University
___ Other School
___ Federal Govt.
___ State Govt.
___ Local Govt.
___ Religious
___ Private
___ Other (please describe)

b. Primary Activity of Sponsoring Organization:

___ Research
___ Manufacturing
___ Business
___ Education
___ Vocational Trng.
___ Service to Members
___ Government
___ Other (please describe)

c. Library or Information Center:
(Please circle appropriate answer)

yes/no Only Library in Organization
yes/no Main Library (if Main Library, please indicate how many branch libraries under your supervision:_____)
yes/no Branch Library (if Branch Library, please give name and address of your main library:)

_____

_____

yes/no Does Your Organization Maintain Departmental Libraries?
yes/no Are These Under Your Supervision?

==========

6. Collection of Information Materials:(Please give exact number in Col.1. If this information is not available, give estimate in Col.2. In Col.3, please give number of items added during the latest year for which figures are available)

a. Number of Items in Collection	Col.1	Col.2 (est.)	Col.3 (added)
Books (texts and general, reference)	_____ vols.	_____ vols.	_____ vols.
Periodicals and/or Serials: (Please check/ / if count contains both			
Current Subscriptions	_____ subs.	_____ subs.	_____ subs.
Non-Current Titles in Permanent Collection	_____ titles	_____ titles	_____ n.a.
Technical Reports:			
Produced In-House	_____ no.	_____ no.	_____ no.
Others	_____ no.	_____ no.	_____ no.
Motion Picture Films	_____ reels	_____ reels	_____ reels
Slides	_____ no.	_____ no.	_____ no.
Microfilm	_____ reels	_____ reels	_____ reels
Microfiche	_____ no.	_____ no.	_____ no.
Tapes:			
Audio	_____ reels	_____ reels	_____ reels
Magnetic, Computer	_____ reels	_____ reels	_____ reels

a. Number of Items in Collection	Col.1	Col.2 (est.)	Col.3 (added)
Pamphlets, Reprints (No. of Vertical File Drawers or Number of Items, Please Indicate Which)	_____	_____	_____
Illustrations	_____ no.	_____ no.	_____ no.
Clippings (VF Drawers or Items)	_____	_____	_____
Other (please describe)	_____	_____	_____
	_____	_____	_____

b. Major Subject Area of Your Collection: (Please check one)

___ Physical Sciences

___ Biomedical Sciences

___ Engineering

___ Humanities

___ Social Sciences

___ Other (please name)

Please List, in Descending Order of Importance, Those Subjects which Most Specifically Describe Your Collection. Underline Those which You Consider Particularly Strong or Unique:

1. _____ 2. _____

3. _____ 4. _____

_____

==========

7. Staff: (Please give full-time equivalents)

____Number of Professional, Salaried Staff (Include unpaid professional staff)

Please Indiate How Many Hold the Following Degrees:

_____	_____	_____	_____	_____
Doctorate	Master's (not L.S.)	L.S.Degree	Baccalaureate (not L.S.)	Other (Indicate which)

___ Number of non-professional and Clerical Staff

___ Number of Professional Vacancies

8. Services:

Please Indicate Below Those Services Your Library Offers. For Each, Rate, by Writing Numbers as Follows:

(1) Heavy Use (2) Moderate Use (3) Light Use

CATEGORY	OFFERED (check)	USE (rate)
Loan of Books		
Loan of Journals		
Interlibrary Loan:		
To Other Institutions:		
From Other Institutions:		
Photocopying		
Quick Reference Service:		
In Library Only		
By Telephone		
Compilations of Bibliographies:		
Comprehensive		
Evaluative and/or Annotated		
Verification of Bibliographies and/or Citations		
Literature Searches		
Preparation of State-of-the-Art Reports		
Abstracting Services (In-House)		
Indexing Services (In-House)		
Routing of Journals		
Routing of Acquisitions Lists		
Notification of Users When Items of Interest Arrive (SDI)		
Arrange for or Prepare Translations		
Loan of Films, Slides, Tapes		
Loan of Audio-Visual Equipment		
Aid User with Personal Collection		
Other (please describe)		

9. Hours of Service:

Full Service _____ Mon.-Fri. _____ Sat. _____ Sun.

Limited Service* _____ Mon.-Fri. _____ Sat. _____ Sun.

*e.g. No professional on duty; no photocopying, etc.

10. Users:

In Col.1, Please Indicate Groups to Which Your Services are Available Without Restrictions
In Col.2, Check which Services Could be Made Available to Groups Not Now Using Your Facility
In Col.3, State What Conditions Would Have to be Met for Those Groups Not Now Using Your Facility to be Eligible, e.g. 'Letter from Local Librarian', 'Payment of Fee', 'Use on Premises Only', 'Through Inter-Library Loan Only', etc.

CATEGORY	Col.1 (Use Now)	Col.2 (Could Use)	Col.3 (Conditions To Be Met)
Within Organization: Research Staff			
Administrative Staff			
All Staff on Premises			
All Staff, Regardless of Location			
Members Only			
Outside Organization: Faculty Members (College or Higher)			
Graduate Students			
Undergraduate Students			
High Schl.Students			
Teachers (H.S.or below)			
Members of Certain Professions, e.g. Lawyers, Doctors)			
General Public			
Other Category(describe)			
Other Category(describe)			

Your Comments: (please describe any special arrangements you may have with certain users or groups, and the like)

11. Automation Activities:

Are You Presently Using Any of the Following: (Please Circle appropriate answer)

yes/no Teletype(TWX) yes/no Unit Record Equipment

yes/no Computer yes/no Microfilming Equipment (NOT readers)

If You are Using Computer, Specify Brand and Model_____

Below Please List Automation Activities and Check Equipment Used:

CATEGORY	UNIT RECD. EQUIPMENT	COMPUTER	TWX	WATS*
Technical Services and/or Circulation				
Interlibrary Loans				
SDI Services				
Indexing Services				
Acquisitions Lists				
Routing of Materials				
Reference Work				
Tape Searches (please indicate which) ___NASA ___ CA ___DDC ___ ISI ___MEDLARS ___ MARC ___OTHER (describe) ___OTHER (Describe)				
Other Activities(describe)				

If You are Not Now Using Computers, do You Plan to do so? yes/no

When?_____ Please Describe What Computer-Based Activities You are Planning:_____

_____

_____

12. Indiana State Library: If the Indiana Library Studies should indicate that additional services should or could be made available from the Indiana State Library, please indicate what kinds of services you would like to see improved or begun, particularly those which would be useful to your library . Use back of this sheet for your comments, please.

* WATS - Wide Area Telephone Service

THANK YOU VERY MUCH FOR COMPLETING THIS QUESTIONNAIRE!

_____
DATE

_____
YOUR SIGNATURE

Please Return by August 20 to:

Mrs. Brigitte L. Kenney
Systems Analyst
Rowland Medical Library
University Medical Center
Jackson, Miss. 39216